

**Amendments to the Specification:**

Please amend the specification as follows:

Please replace the paragraph starting at page 22, (paragraph number [0079]), with the following rewritten paragraph:

[0079] Ferrocene carboxylic acid was purchased from Aldrich (Milwaukee, WI), 1-Ethyl-3-(3-dimethylaminopropyl)-carbodiimide (EDC) and N-hydrosuccinimide ester (NHS) were obtained from Sigma (Milwaukee, WI). Ferrocene succinimide ester (Fc-NHS) was prepared as described in the literature [Takenaka, S., Uto, Y., Kondo, H., Ihara, T. & Takagi, M. *Anal. Biochem.* **218**, 436 (1994)] and confirmed by <sup>1</sup>H NMR. Oligonucleotides were obtained from Synthegen (Houston TX). The sensor oligonucleotide, sequence 5'-NH<sub>2</sub>-(CH<sub>2</sub>)<sub>6</sub>-GCGAG GTA AAA CGA CGG CCA GT CTCGC-(CH<sub>2</sub>)<sub>6</sub>-SH-3' (SEQ I.D. 1) (oligo 1), contained a 5' hexamethylene amine and a 3' hexamethylene thiol group. Fc-NHS was dissolved in a small volume of dimethyl sulfoxide and then diluted in a 0.1 M Na<sub>2</sub>CO<sub>3</sub> buffer (pH 8.5) containing 0.1 mM of oligo 1. This mixture was stirred overnight at room temperature. The final product (oligo 1-Fc) was purified by HPLC on a C18 column and confirmed by electrospray mass spectroscopy. The sequences of the target and control DNA oligos were 5'-tttt ACT GGC CGT CGT TTT AC tcttt-3' (SEQ I.D. 2) and 5'-CGT ATC ATT GGA CTG GCC ATT TAT-3' (SEQ I.D. 3). All solutions were prepared with nano-pure water.

Please replace the paragraph starting at page 27, ( paragraph number [0091]), with the following rewritten paragraph:

[0091] Oligonucleotides were obtained from Synthegen (Houston, TX). The sensor oligonucleotide, 5'-HS-(CH<sub>2</sub>)<sub>6</sub>-GCGAGGT AAAACG ACGGCC AGTCTCGC-(CH<sub>2</sub>)<sub>6</sub>-NH<sub>2</sub>-3' (SEQ I.D. 1) (oligo 1), contains a 5' hexamethylene thiol and a 3' hexamethylene amine. A methylene blue (MB) tag was conjugated to oligo 1 through coupling the succinimide ester of MB (MB-NHS, EMP Biotech, Germany) with the 5' amine of oligo 1. The final product (oligo 1-MB) was purified by HPLC on a C18 column and confirmed by electrospray mass spectroscopy. The sequences of the target and control DNA oligos were 5'-ACTGGCCGTCGTTTAC-3' (SEQ I.D. 4) (oligo 2) and 5'-CGTATCATTGGACTGGC-3'

(SEQ I.D. 5) (oligo 3), respectively. Oligo 2 is fully complementary to the loop sequence while the control oligo 3 is a sequence unrelated to the probe sequence, which was used as the masking DNA.